

# A PLUNGE-TYPE ROUTER HAVING IMPROVED PLUNGE RETURN CAPABILITY

## Abstract of the Disclosure

6 A preferred embodiment router is disclosed having a housing which supports a  
7 motor wherein the housing is vertically movable along a pair of spaced vertical guide  
8 posts of a base structure and wherein the router includes a flexible baffle which can  
9 vertically expand and contract as the housing is moved relative to the base structure and  
10 wherein at least one post has a coil spring located within the baffle which is configured to  
11 bias the housing away from the base structure, with the coil spring having a generally  
12 hourglass shaped configuration. The configuration has outer end portions with larger coil  
13 diameters, both of which transition to a center portion with a smaller coil diameter. The  
14 hourglass configured coil minimizes the possibility of the coil buckling which could  
15 result in a loss of spring force as well as a distortion of the shape of the baffle. Also, the  
16 amount of travel that is permitted by the hourglass spring is larger than would be  
17 achieved by a comparable uniform coil diameter spring made from the same material,  
18 because a number of coils can be telescoped together to produce a smaller compressed or  
19 solid height of the spring.